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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/713,488	11/14/2003	Shi-Yun Cho	5000-1-488	9189

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CHA & REITER, LLC  
210 ROUTE 4 EAST STE 103  
PARAMUS, NJ 07652

EXAMINER


THOMPSON, TIMOTHY J

ART UNIT PAPER NUMBER

2873

DATE MAILED: 05/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/713,488	Applicant(s) CHO, SHI-YUN	
	Examiner Timothy J Thompson	Art Unit 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10 is/are allowed.
- 6) ☒ Claim(s) 1-7, 9 and 11 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 9 are rejected under 35 U.S.C. 102(b) as being anticipated by kusaka et al.(U.S. Patent No. 5,076,675).

Regarding claim 1, Kusaka et al. discloses a semiconductor laser for outputting a first linearly-polarized beam of a predetermined polarization mode(col 11, lines 25-35); a polarizer positioned to face an end of the semiconductor laser, wherein a polarization axis of the polarizer is at a 45 deg angle with a polarization direction of the first beam(fig 18, 22); and a Faraday rotator between the semiconductor laser and the polarizer(fig 18, 18), wherein said rotator rotates the polarization direction of the first beam by 45 deg to substantially coincide with the polarization axis of the polarizer, and rotates a second beam from the polarizer by 45 deg, wherein the second beam has a polarization mode polarized perpendicular to the first beam(col 18, lines 10-47).

Regarding claim 2, Kusaka et al. discloses wherein the faraday rotator provides the rotated first beam to the polarizer(col 18, lines 10-47).

Regarding claim 3, Kusaka et al. discloses the Faraday rotator provides the rotated second beam to the semiconductor laser(col 18, lines 10-47).

Regarding claim 4, Kusaka et al. discloses a lens between the semiconductor laser and the Faraday rotator(fig 14, 26).

Regarding claim 5, Kusaka et al. discloses an optical element facing an outer surface of the polarizer(fig 14, 28).

Regarding claim 6, Kusaka et al. discloses the optical element facing is a lens(fig 14, 28 and col 9, line 56).

Regarding claim 9, Kusaka et al. discloses the second beam received by the semiconductor laser after passing through the Faraday rotator has a polarization mode polarized perpendicular to the first beam(col 11, lines 20-25).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kusaka et al.(U.S. Patent No. 5,076,675 as applied to claim 1 above, and further in view of Droegemueller et al.(U.S. Patent No. 5,066,092).

Regarding claim 7, Kusaka et al. as detailed in claim rejection 1 above does not disclose the linearly polarized first beam has a polarization TE mode. However, Droegemueller et al. discloses a linearly polarized first beam with a polarization TE

mode. It would have been obvious to one skilled in the art at the time of the invention to use a linearly polarized first beam with a polarization TE mode as shown by Droegemueller et al., in the optical isolator of Kusaka et al., since as shown by Droegemueller et al. linearly polarized first beam with a polarization TE mode are commonly used in optical isolators for being polarized then provided to an optical fiber.

Regarding claim 11, the second beam from the Faraday rotator to the semiconductor laser is a beam of a TE polarization mode linearly polarized perpendicular to the first beam (since it has been established in the previous claim rejections 1 and 7 above that the first beam is a TE polarization mode linearly polarized and the second beam is polarized perpendicular to the first beam, the second beam will also be linearly polarized with a TE mode since nothing has happened to the beam to affect the linear polarization or the TE mode of the first beam before it becomes the reflected second beam).

#### ***Allowable Subject Matter***

Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. With the allowable feature being the polarization mode of the second beam received by the semiconductor laser after passing through the Faraday rotator is a TM mode.

Art Unit: 2873

Claim 10 is allowed.

The following is an examiner's statement of reasons for allowance: The prior art taken either singularity or in combination fails to anticipate or fairly suggest the limitations of the independent claim, in such a manner that a rejection under 35 U.S.C. 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claim 10, with the important feature being a first linearly polarized beam of a TM mode. Therefore claim 10 is allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Thompson whose telephone number is (571) 272-2342. If the examiner can not be reached his supervisor, Georgia Epps, can be reached on (571) 272-2328.

A handwritten signature in black ink that reads "Tim Thompson". The signature is written in a cursive, flowing style.

T.J.T.